10. Vertical Stabilizer Trim Tab Adjustment and Tool Manufacturing (600N)

A. Trim Tab Tool Manufacturing

(Ref. Figure 507)

(1). Manufacture guide as follows:

(a). Cut guide from 0.130 inch (3.30 mm) 2024–T3 aluminum sheet 7.00 inch (17.78 cm) x 4.50 inch (11.43 cm).

(b). Measuring 1.73 inch (4.39 cm) from bottom, make V–cut in guide 1.030 inch (2.62 cm) wide and 3.79 inch (9.63 cm) deep.

(c). File 0.070 inch (1.78 mm) wide x 0.260 inch (6.60 mm) deep slot in aft end of V–cut.

(d). File smooth all surfaces of guide.

NOTE: Note the difference in the degree markings between the top and bottom of the guide.

(e). Etch degree marks in guide as indicated in Figure 507.

(2). Manufacture angle tool as follows:

(a). Cut two plates from 0.130 inch (3.30 mm) 2024–T3 aluminum sheet 9.00 inch (22.86 cm) x 2.00 inch (5.08 cm).

(b). Cut a spacer from 0.040 inch (1.016 mm) 2024–T3 aluminum sheet 9.00 inch (22.86 cm) x 1.00 inch (2.54 cm).

(c). File smooth all surfaces of spacer and plates.

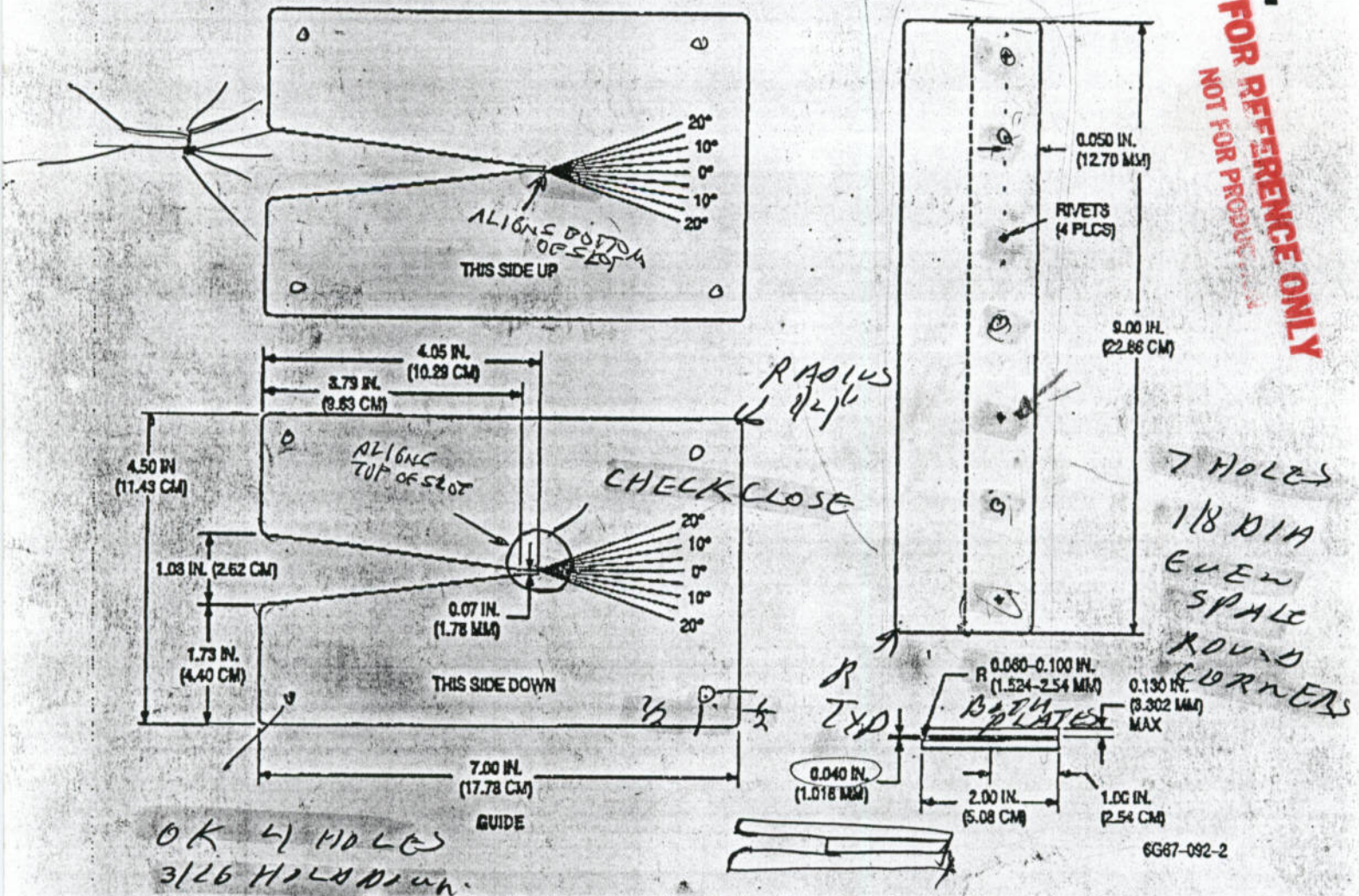

Figure 507. Vertical Stabilizer Trim Tab Bending Tool

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10. Vertical Stabilizer Trim Tab Adjustment and Tool Manufacturing (600N)

A. Trim Tab Tool Manufacturing

(Ref. Figure 507)

(1). Manufacture guide as follows:

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(b). Measuring 1.73 inch (4.39 cm) from bottom, make V–cut in guide 1.030 inch (2.62 cm) wide and 3.79 inch (9.63 cm) deep.

(c). File 0.070 inch (1.78 mm) wide x 0.260 inch (6.60 mm) deep slot in aft end of V–cut.

(d). File smooth all surfaces of guide.

NOTE: Note the difference in the degree markings between the top and bottom of the guide.

(e). Etch degree marks in guide as indicated in Figure 507.

(2). Manufacture angle tool as follows:

(a). Cut two plates from 0.130 inch (3.30 mm) 2024–T3 aluminum sheet 9.00 inch (22.86 cm) x 2.00 inch (5.08 cm).

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(c). File smooth all surfaces of spacer and plates.

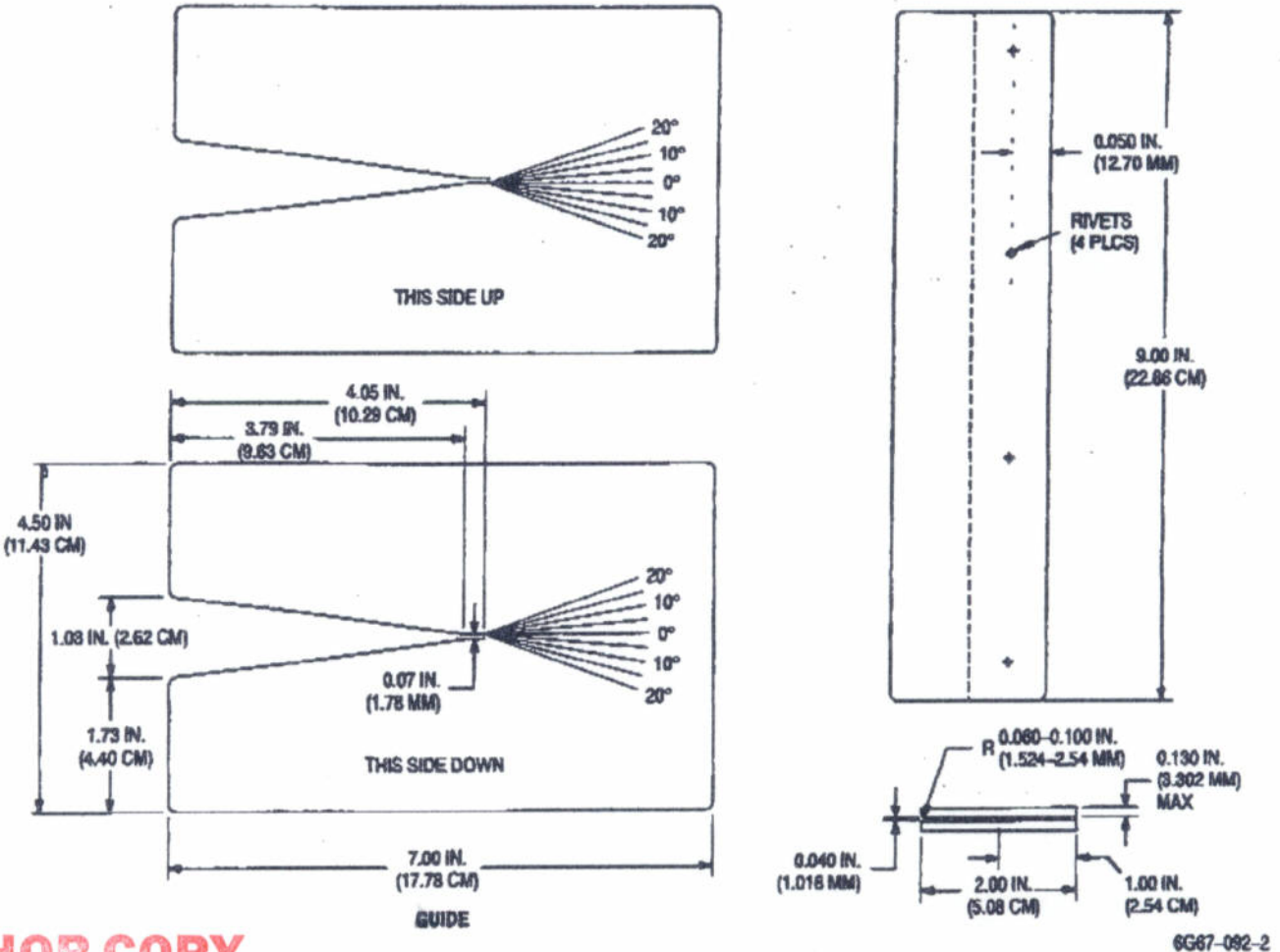

Figure 507. Vertical Stabilizer Trim Tab Bending Tool

(d). Chamfer one 9.00 inch (22.86 cm) edge of each plate, 0.060 x 0.100 inch (1.524 x 2.54 mm) (this will be the front of the tool) as indicated in Figure 507.

(e). Stack plates, chamfered edges facing each other with spacer between plates and flush with aft side of plates (un-chamfered edge).

(f). Drill and rivet angle tool together, size and type of rivets optional.

B. Trim Tab Adjustment

(Ref. Figure 506) Adjust vertical stabilizer trim tabs to improve directional handling characteristics and to minimize pedal forces in forward flight.

For best results, aircraft should be weighted down to normal operating weight during test flights while doing tab adjustments.

NOTE:

- Ensure vertical stabilizers are rigged correctly (Ref. Vertical Stabilizer Assembly Rigging (600N)).
- Ensure there is no play between the 500N7213-5 bellcrank assembly and the 500N7212-3 shaft.
- Ensure there is minimal play between the upper and lower vertical stabilizers.
- When installing new upper vertical stabilizers, if previous tab settings were not recorded, left trim tab should be set to zero degrees and right trim tab should be set to 10° right (viewed looking forward from the rear).
- The right vertical stabilizer tends to affect pedal pressure more than the left. The left vertical stabilizer tends to affect flight characteristics more than the right.

Left Vertical Tab	Right Vertical Tab
0°	10° Right

(1). Determine which pedal requires excess pressure to attain proper trim during straight flight.

NOTE:

- Always adjust right vertical stabilizer trim tab first. If tab is bent to a maximum of 20° before correct pedal pressure can be achieved, go to left tab and continue adjustments.
- Limit tab adjustments to 5° increments between flights.
- Exceeding 20° tab adjustments may cause a "tail wag" condition.

(2). Position guide on right vertical stabilizer over trim tab.

(3). Position angle tool on trim tab.

CAUTION Do not bend tabs beyond 20° in either positive or negative direction. Tabs and/or vertical stabilizer skin can be damaged.

NOTE:

- Bending tabs to the right will decrease left pedal pressure.
- Tab angles are acceptable when left pedal forces are between 2 and 5 lbs. (0.91 and 2.27 Kg) in stabilized flight and the flight characteristics are acceptable.

(4). Bend tab in direction needed to relieve pedal pressure and improve flight characteristics.

(5). Remove tab tools and fly aircraft, see chart below, to determine if pedal pressure was relieved.

(6). Repeat above steps until pedal pressure and handling characteristic are corrected.

NOTE: After trim tab adjustments, position guide on both the top and bottom of trim tab to ensure tab is straight.

(7). Log trim tab setting in log book.